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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,335	01/15/2004	Seth J. Orlow	0291472.124US2	6410

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WILMERHALE/BOSTON
60 STATE STREET
BOSTON, MA 02109

EXAMINER	
ANDERSON, JAMES D	

ART UNIT	PAPER NUMBER
1614	

NOTIFICATION DATE	DELIVERY MODE
07/18/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/758,335	ORLOW ET AL.	
	Examiner	Art Unit	
	JAMES D. ANDERSON	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *56,69,78 and 79* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *69* is/are allowed.

6)☒ Claim(s) *56,78 and 79* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Formal Matters

Applicants' response and amendments to the claims, filed 4/23/2008, are acknowledged and entered. Claims 78 and 79 have been added by Applicant. Claims 56, 69, 78, and 79 are pending and under examination.

Claim Rejections - 35 USC § 112 – 1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The rejection of claims 56 and 69 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement (new matter), is withdrawn in light of Applicant's arguments, citing support for the claimed "one or more compounds" at ¶¶ [29], [215] ("...these agent may be used singly, in combination with one another..."), [223-226] ("...the compounds used in the methods of the present invention may be used alone or in combination with each other..."), [235] ("...either as individual therapeutic agents or in a combination of therapeutic agents..."), and [237] ("...topical application of compositions containing one or more compounds...").

The rejection of claims 56 and 69 under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for decreasing melanin *content* in a melanocyte, does not reasonably provide enablement for decreasing melanin *production*, is withdrawn in light of Applicant's amendments.

Claims 78 and 79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed

invention. This is a written description rejection, rather than an enablement rejection under 35 U.S.C. 112, first paragraph. Applicant is directed to the Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, 1st "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

The claims are drawn to methods comprising contacting melanocytes (claim 78) or skin (claim 79) with a claimed compound wherein the melanocyte or skin is in or is the skin "of a mammal having a disease, disorder, or condition *characterized by* overproduction of melanin".

Vas-Cath Inc. V. Mahurkar, 19 USPQ2d 1111, states that Applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention, for purposes of the written description inquiry, is whatever is now claimed (see page 1117). A review of the language of the claims indicates that these claims are drawn to a generic genus, *i.e.*, conditions *characterized by* overproduction of melanin.

To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof.

A description of a genus may be achieved by means of a recitation of a representative number of species falling within the scope of the genus or of a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus. *Regents of the University of California v. Eli Lilly & Co.*, 119 F3d 1559, 1569, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997). In *Regents of the University of California v. Eli Lilly* (43 USPQ2d 1398-1412), the court held that a generic statement which defines a genus of nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that, while applicants are not required to disclose every species encompassed by a genus, the description of the genus is achieved by the recitation of a representative number of species falling within the scope of the claimed genus. At section B(i), the court states, "An adequate written description of a DNA ... requires a precise definition, such

as by structure, formula, chemical name, or physical properties, not a mere wish or plan for obtaining the claimed chemical invention."

There are two species of the claimed genus disclosed that are within the scope of the claimed genus, *i.e.* hyperpigmentation caused by inflammation or from diseases such as melasma, or brown spots such as "caf au lait" macules. The disclosure of two disclosed species may provide an adequate written description of a genus when the species disclosed are representative of the genus. However, the present claim encompasses numerous species that are not further described.

In the absence of sufficient recitation of distinguishing characteristics, the specification does not provide adequate written description of the claimed genus, which is a generic genus of diseases, disorders, and conditions that are described only by the fact that they are "characterized by" overproduction of melanin. One of skill in the art would not recognize from the disclosure that the applicant was in possession of the genus now claimed. The specification does not clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed (see *Vas-Cath* at page 1116). In other words, while Applicant has described methods of decreasing melanin content or decreasing skin pigmentation, he has not described the diseases, disorders, or conditions characterized by overproduction of melanin as presently claimed.

Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. 112 is severable from its enablement provision (see page 1115).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

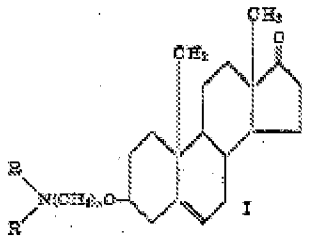
The rejection of claim 56 under 35 U.S.C. 102(b) as being anticipated by Kagan (USP No. 3,389,051), is maintained for the reasons of record and reiterated below.

Applicant argues that Kagan is focused on oral administration or injection, and does not teach topical administration of the disclosed compounds for any purpose. This argument is

persuasive with respect to claim 69, which recites "contacting skin" with a claimed compound, but is not persuasive with respect to claim 56, which recites "contacting the melanocyte" with a claimed compound. The skilled artisan knows that oral administration or injection of a compound for a therapeutic purpose will result in the compound being distributed throughout the body. As such, oral administration or injection of a compound of Kagan will "contact" a melanocyte as recited in claim 56. Further, Applicant is reminded that a compound and its properties or characteristics are not separable. As such, the decrease in melanin content recited in claim 56 will necessarily result when the compound of Kagan is administered to a patient. Applicant further agues that the Office Action does not establish that the compounds disclosed in Kagan were ever topically administered to the skin or that systemic administration affects melanin production. However, the Examiner reminds Applicant that claims 56 and 78 do not require or recite topical administration. In addition, the Office does not have testing facilities and thus it is incumbent on Applicant to demonstrate that systemic administration does not affect melanin content.

The instant claims recite a method of decreasing melanin content in a melanocyte (claim 56) comprising contacting the melanocyte with one or more compounds of formulas II-VIII.

Kagan teaches compounds of formula I wherein R is an alkyl group of less than 4 carbons and n is an integer of 2-6 (col. 1, lines 21-69), which reasonably discloses a compound inclusive of a compound as set forth in the instant claims (compound VIII).



The compounds of Kagan are taught to be useful in significantly reducing the cholesterol content of both blood and tissue by partially arresting the biosynthesis of cholesterol in the body (col. 2, lines 36-40). For administration to humans, Kagan teaches administration in unit dosage forms such as tablets, pills, capsules, powders, wafers, cachets, granules, sterile parenteral solutions or suspensions in aqueous or oil vehicles, oral aqueous or oil dispersions, including syrups and elixirs, and the like (col. 4, lines 69-75).

Kagan does not explicitly teach the specifically claimed compound of formula VIII and is silent with respect to decreasing melanin production in a melanocyte or reducing skin pigmentation.

However, if one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula, the compound is anticipated. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be "at once envisaged." One may look to the preferred embodiments to determine which compounds can be anticipated. In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962). In the instant case, preferred embodiments of Kagan are compounds wherein R is ethyl, thus leading one skilled in the art to immediately envisage such a substituent, which is the same substituent recited in the compound of formula VIII in the instant claims. See Preparation 1 of Kagan (col. 3, lines 22-48). With respect to the stereochemistry of the compound of formula VIII recited in the instant claims, in the compounds of formula I taught in Kagan, there are only 4 possible stereoisomers involving the methyl substituents attached to the ring system (*i.e.*, *RR*, *RS*, *SR*, or *SS*). As such, one skilled in the art could immediately envisage the stereochemistry as recited in the claimed compound of formula VIII.

It is noted that *In re Best* (195 USPQ 430) and *In re Fitzgerald* (205 USPQ 594) discuss the support of rejections wherein the prior art discloses subject matter, which there is reason to believe inherently includes functions that are newly cited, or is identical to a product instantly claimed. In such a situation the burden is shifted to the applicants to "prove that subject matter to be shown in the prior art does not possess the characteristic relied on" (205 USPQ 594, second column, first full paragraph). There is no requirement that a person of ordinary skill in the art would have recognized the inherent disclosure at the time of invention, but only that the subject matter is in fact inherent in the prior art reference. *Schering Corp. v. Geneva Pharm. Inc.*, 339 F.3d 1373, 1377, 67 USPQ2d 1664, 1668 (Fed. Cir. 2003); see also *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004) ("[T]he fact that a characteristic is a necessary feature or result of a prior-art embodiment (that is itself sufficiently described and enabled) is enough for inherent anticipation, even if that fact was unknown at the time of the prior invention").

Though Kagan does not expressly teach decreasing melanin content in a melanocyte (claim 56) as a result of the administration of the disclosed compounds to the subject being treated, the administration of the same compound(s) as claimed (*e.g.*, those identical to Applicant's claimed compound of formula VIII where R is ethyl) to the same host (*i.e.*, human or human cell) as claimed is considered to necessarily have the claimed effect of decreasing melanin content in a melanocyte (claim 56) on the subject or cell being treated, whether expressly recognized by Kagan or not. Products of identical chemical composition cannot exert mutually exclusive properties when administered under the same circumstances or, in the present case, the same host. Please reference MPEP §2112.

Further, the instant claim lacks any patient population limitation and thus administering a compound of formula I to a patient in need of cholesterol reduction as taught in Kagan reasonably reads on the instant claim.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES D. ANDERSON whose telephone number is (571)272-9038. The examiner can normally be reached on MON-FRI 9:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on 571-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James D Anderson/
Examiner, Art Unit 1614

/Ardin Marschel/
Supervisory Patent Examiner, Art Unit 1614